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EXPRESS MAIL CERTIFICATE

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I hereby certify that, on the date indicated above, this paper or fee was deposited with the U.S. Postal Service & that it was addressed for delivery to the Assistant Commissioner for Patents, Washington, DC 20231 by "Express Mail Post Office to Addressee" service.

D. Davis  
Name (Print)

[Signature]  
Signature

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PATENT TRADEMARK OFFICE

Docket No.: 4040/1K200US1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Mark I. GREENE, Ramachandran MURALI, Kazhuirō AOKI, William Carle HORNE and Roland BARON

Serial No.: 09/627,775

Filed: July 28, 2000

Confirmation No.: 3099

Art Unit: 1655

Examiner: Arun K. CHAKRABARTI

For: METHODS OF INHIBITING OSTEOCLASTOGENESIS

TRANSMITTAL OF REVOCATION OF POWER OF ATTORNEY AND  
SUBSTITUTE POWER OF ATTORNEY

Hon. Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:


Transmitted herewith is a Revocation of Power of Attorney, Substitute

Power of Attorney, Change of Correspondence Address and Certification under 37

C.F.R. §3.73(b) in the above-identified application.

Respectfully submitted,

Dated: August 1, 2002



Melvin C. Garner

Reg. No. 26,272

Attorney for Applicant(s)

DARBY & DARBY P.C.  
805 Third Avenue  
New York, New York 10022  
212-527-7700

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Name (Print) J. Davis Signature [Signature]

The assignees of the above-identified application hereby revoke all prior powers of attorney, and appoint:

Michael J. Sweedler (No. 19,937)  
S. Peter Ludwig (No. 25,351)  
Paul Fields (No. 20,298)  
Marc S. Gross (No. 19,614)

Joseph B. Lerch (No. 26,936)  
Melvin C. Garner (No. 26,272)  
Ethan Horwitz (No. 27,646)  
Adda C. Gogoris (No. 29,714)  
Bert J. Lewen (No. 19,407)  
Henry Sternberg (No. 22,408)  
Peter C. Schechter (No. 31,662)  
Robert Schaffer (No. 31,194)  
Robert C. Sullivan, Jr. (No. 30,499)  
Ira J. Levy (No. 35,587)  
Joseph R. Robinson (No. 33,448)  
Scott Lindvall (No. 40,325)  
Paul F. Fehlner, Ph.D. (No. 35,135)  
David Leason (No. 36,195)  
Pierre R. Yanney, (No. 35,418)  
Samuel S. Woodley, Ph.D. (No. 43,287)  
Mitchell Bernstein, Ph.D. (No. 46,550)  
Petra Sansom, Ph.D. (No. 45,741)

all of the firm of **DARBY & DARBY P.C.**, located at 805 Third Avenue, New York, New York 10022, as its attorneys and/or agents with full power of substitution and revocation, to prosecute said application, and to transact all business in the United States Patent and Trademark Office in connection therewith.

Please address all communications relating to the present application  
to:

S. Peter Ludwig, Esq. (Reg. No. 43,287)  
**DARBY & DARBY, P.C.**  
Post Office Box 5257  
New York, NY 10150-5257  
(212) 527-7700

**CERTIFICATION UNDER 37 C.F.R. § 3.73(b):**

In accordance with the requirements of 37 C.F.R. § 3.73(b), the undersigned hereby certify that the TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA and YALE UNIVERSITY are the sole assignees of the entire right, title and interest of the present application.

THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA is an assignee by virtue of an assignment made by the inventors Mark I. GREENE and

Ramachandran MURALI, and executed on June 25, 2002. A true copy of the Assignment to the TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA is submitted herewith at Exhibit Tab A, pursuant to 37 C.F.R. § 3.73(b)(1)(i) and to establish the right of that Assignee to take action. The original Assignment document is being submitted concurrently to the U.S. Patent and Trademark Office, under separate cover, for recordation.

YALE UNIVERSITY is an assignee by virtue of an Assignment made by the inventors Kazuhiro Aoki, Roland Baron and William Carle Horne, and executed on February 17, 2002, January 24, 2002 and January 24, 2002, respectively. A true copy of the Assignment to YALE UNIVERSITY is submitted herewith at Exhibit Tab B, pursuant to 37 C.F.R. § 3.73(b)(1)(i) and to establish the right of that Assignee to take action.<sup>1</sup>

The undersigned have reviewed the evidentiary documents in the chain of title for this patent application and certify that, to the best of their knowledge and belief, title is in the assignees seeking to take action. The undersigned further

---

<sup>1</sup> The original assignment by Roland Baron and William Carle Horne has been recorded in the U.S. Patent and Trademark Office at **Reel 012748, Frame 0859**. The original assignment by Kazuhiro Aoki was submitted to the U.S. Patent and Trademark Office for recordation on April 16, 2002. However, a Notice of Recordation has not yet been received.



certify that they are empowered to act on behalf of the assignee indicated beneath their respective signatures.

Respectfully submitted,

Dated: \_\_\_\_\_

NAME: \_\_\_\_\_

TITLE: \_\_\_\_\_

COMPANY: TRUSTEES OF THE UNIVERSITY OF  
PENNSYLVANIA

Dated: 7/23/02

NAME: \_\_\_\_\_

TITLE: **Vice President and General Counsel**

COMPANY: YALE UNIVERSITY

Attachments: Exhibit A (Assignment to Trustees of the University of  
Pennsylvania)

Exhibit B (Assignment to Yale University)

PATENTS ONLY

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Mark I. GREENE and Ramachandran MURALI

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Other

Execution Date: JUNE 25, 2002

2. Name and address of receiving party(ies):

Name: The Trustees of the University of Pennsylvania

Internal Address:

Street Address: **3160 Chestnut Street, Suite 200**

City: **Philadelphia** State: **PA** Zip: **19104-6283**

Additional name(s) of receiving party(ies) attached? ☐ Yes ☒ No

Date 8/1/02 Label No. EV186683219US

I hereby certify that, on the date indicated above, this paper or fee was deposited with the U.S. Postal Service & that it was addressed for delivery to the Assistant Commissioner for Patents, Washington, DC 20231 by "Express Mail Post Office to Addressee" service.

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is:

Name (Print)

Signature

A. Patent Application No.(s)

09/627,775

Filed: JULY 28, 2000

B. Patent No.(s)

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Additional numbers attached? ☐ Yes ☒ No

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5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Darby & Darby P.C.

Internal Address: Adda C. Gogoris

Street Address: Post Office Box 5257

City: New York State: New York Zip: 10150-5257

6. Total number of applications and patents involved:

1

7. Total fee (37 CFR 3.41):.....\$ 40.00

☒ Enclosed

☐ Authorized to be charged to deposit account

8. Deposit account number:

04-0100

(Attach duplicate copy of this page if paying by deposit account)

DO NOT USE THIS SPACE

9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Melvin C. Garner (26,272)  
Name of Person Signing

Signature

August 1, 2002  
Date

Total number of pages including cover sheet, attachments, and document:

3



**ASSIGNMENT**

I, **Mark I. Greene**, a citizen of U.S.A., residing at 300 Righters Mill Road, Penn Valley, Pennsylvania 19072; and

I, **Ramachandran Murali**, a citizen of U.S.A., residing at 41-6 Revere Road, Drexel Hill, Pennsylvania 19026,

(hereinafter called "ASSIGNOR") in consideration of the sum of One Dollar (\$1.00) or the equivalent thereof, and other good and valuable consideration, receipt of which is hereby acknowledged, paid to me by

**THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA**

a corporation organized under the laws of Pennsylvania, located at 3160 Chestnut Street, Suite 200, Philadelphia, PA 19104-6283, (hereinafter called the "ASSIGNEE"), do hereby sell and assign to said ASSIGNEE, its successors and assigns, all my right, title and interest, **throughout the world, including priority rights**, in and to my invention entitled:

**METHODS OF INHIBITING OSTEOCLASTOGENESIS**

invented by me, as a co-inventor if other inventors are identified above, and described in a patent application Serial No. 09/627,775, Filed on July 28, 2000, for United States Letters Patent therefor, and all divisions, reissues, continuations and extensions thereof, said interest being **my entire ownership interest** in said Letters Patent when granted, to be held and enjoyed by said ASSIGNEE, its successors, assigns or other legal representatives, to the full end of the term for which said Letters patent may be granted, as fully and entirely as the same would have been held and enjoyed by me if this assignment and sale had not been made;

And I hereby agree to sign and execute any further documents or instruments which may be necessary, lawful, and proper in the prosecution of said above-named application or in the preparation and prosecution of any continuing, continuation-in-part, substitute, divisional, renewal or reissue applications, or in any amendment, extension, or interference proceedings, or otherwise to secure the title thereto in said ASSIGNEE;

And I hereby authorize and request the Commissioner of Patents and Trademarks to issue said Letters Patent to said ASSIGNEE.

I declare under penalty of perjury under the laws of the United States of America that I have signed this document as my own free act and that all of the foregoing is true and correct.

Mark I. Greene  
Mark I. Greene

DATED: 6/25/2002

Ramachandran Murali  
Ramachandran Murali

DATED: 06/25/2002

(Pending Application;  
Serial No. Known)**ASSIGNMENT**

WHEREAS, we, Kazuhiro Aoki, William Carle Horne and Roland Baron, hereinafter referred to as the assignors, residing respectively at 3-10-10-807 Izumi-cho, Narashino-shi, Chiba 275-0006 JAPAN, 246 Pleasant Point Road, Branford, Connecticut 06405, and 9 Little Harbor Road, Guilford, Connecticut 06437 are joint-inventors with Mark I. Greene and Ramachandran Murali of The University of Pennsylvania of certain inventions or improvements for which we have made application for Letters Patent to the United States, identified as Serial No. 09/627,775, filed July 28, 2000, entitled **METHODS OF INHIBITING OSTEOCLASTOGENESIS**; and

WHEREAS, Yale University, hereinafter referred to as the assignee, a corporation of the State of Connecticut, having its principal place of business at 451 College Street, New Haven, Connecticut 06511, is desirous of acquiring our entire right, title and interest in and to the said inventions or improvements and in and to the said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof in any and all countries:

NOW, THEREFORE, for and in consideration of the sum of One Dollar (\$1.00) to each of us in hand paid by said assignee, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said assignors, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over to said assignee, our entire right, title and interest in and to said inventions or improvements and said application and any and all continuations, divisions and renewals of and substitutes for said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof in the United States and any and all other countries, and any reissue or reissues or extension or extensions of said Letters Patent, and assign to and authorize said assignee, to file in our names applications for Letters Patent in all countries, the same to be held and enjoyed by said assignee, its successors, assigns, nominees or legal representatives, to the full end of the term or terms for which said Letters Patent respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by us had this assignment, sale and transfer not been made.

AND we hereby covenant that we have full right to convey our interest herein assigned, and that we have not executed and will not execute any agreement in conflict herewith, and we further covenant and agree that we will each time request is made and without undue delay, execute and deliver all such papers as may be necessary or desirable to perfect the title to said inventions or improvements, said application and said Letters Patent to said assignee, its successors, assigns, nominees, or legal representatives, and each of us agrees to communicate to said assignee or to its nominee all known facts respecting said inventions or improvements, said application and said Letters Patent, to testify in any legal proceedings, to

sign all lawful papers to execute all disclaimers and divisional, continuing, reissue and foreign applications, to make all rightful oaths, and generally to do everything possible to aid said assignee, its successors, assigns, nominees and legal representatives to obtain and enforce for its or their own benefit proper patent protection for said inventions or improvements in any and all countries.

AND we hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any country or countries foreign to the United States whose duty it is to issue patents on applications as aforesaid, to issue to said assignee, as assignee of our entire right, title and interest, any and all Letters Patent for said inventions or improvements, including any and all Letters Patent of the United States which may be issued and granted on or as a result of the application aforesaid, in accordance with the terms of this assignment.

AND this Assignment may be executed in multiple counterparts, each of which shall be deemed to be an original of this Assignment. Additionally, we hereby authorize our attorneys to collect the signature pages of each executed counterpart and to attach those signature pages to a single copy of this instrument, which single copy and attached signature pages together shall constitute an original of this Assignment.

IN WITNESS WHEREOF, we have hereunto set our hands and seals.

February 17th, 2002  
Date

Kazuhiro Aoki (L.S.)  
Kazuhiro Aoki

*Signed at Tokyo,  
Japan.*

STATE OF \_\_\_\_\_ :  
: SS  
COUNTY OF \_\_\_\_\_ :

On this \_\_\_\_\_ day of \_\_\_\_\_, year of \_\_\_\_, before me personally came the above named \_\_\_\_\_ to me personally known and known to me to be the same individual who executed the foregoing assignment, and who acknowledged to me that execution of the same was of that person's own free will for the use and purposes therein set forth.

\_\_\_\_\_  
Notary Public

1/24/02  
Date

[Signature]  
Roland Baron (L.S.)

STATE OF Connecticut :

COUNTY OF New Haven : SS 041-68-1651

On this 24 day of January, year of 2002, before me personally came the above named Roland Baron to me personally known and known to me to be the same individual who executed the foregoing assignment, and who acknowledged to me that execution of the same was of that person's own free will for the use and purposes therein set forth.

[Signature]  
Notary Public

ELAINE M. DE CAPUA  
NOTARY PUBLIC, STATE OF CT.  
NO. 83144  
QUALIFIED IN NEW HAVEN COUNTY  
COMMISSION EXPIRES OCT. 31 2005

January 24, 2002  
Date

William C. Horne (L.S.)  
William Carle Horne

STATE OF Connecticut :  
COUNTY OF New Haven : SS 034-36-5891

On this 24 day of January, year of 2002 before me personally came the above named William Carle Horne to me personally known and known to me to be the same individual who executed the foregoing assignment, and who acknowledged to me that execution of the same was of that person's own free will for the use and purposes therein set forth.

Elaine M. De Capua  
Notary Public

ELAINE M. DE CAPUA  
NOTARY PUBLIC, STATE OF CT.  
NO. 83144  
QUALIFIED IN NEW HAVEN COUNTY  
COMMISSION EXPIRES OCT. 31, 2007